TASK ORDER (TO)

47QFCA19F0050

Commercial Based Technology Analysis (CBTA)

in support of:

Army Command, Control, Communications, Computers, Cyber, Intelligence, Surveillance, Reconnaissance (C5ISR) Center Intelligence and Information Warfare Directorate (I2WD)

Issued to:
all contractors under the General Services Administration (GSA) One Acquisition Solution for Integrated Services (OASIS) Multiple Award (MA) Indefinite Delivery/Indefinite Quantity (IDIQ) – Pool 4 Contract

Conducted under Federal Acquisition Regulation (FAR) 16.505

Issued by:
The Federal Systems Integration and Management Center (FEDSIM)
1800 F Street, NW (QF0B)
Washington, D.C. 20405

Modification PS01
July 30, 2019

FEDSIM Project Number AR00952

C.1 BACKGROUND

The Intelligence and Information Warfare Directorate's (I2WD) Exploitation Analysis and Response (EAR) Division, operating under the Command, Control, Computers, Communications, Cyber, Intelligence, Surveillance, and Reconnaissance (C5ISR) Center, serves as the Army's center for Research and Development (R&D) of advanced cyber operations, electronic warfare, Signals Intelligence (SIGINT) technologies, radar, and intelligence analysis, exploitation, and dissemination capabilities. The I2WD EAR Division identifies critical technological requirements to counter security threats in support of its customers including other Government Agencies at the Federal, state, and local law enforcement levels, as well as foreign partners, and provides global support to Army Strategic Forces. The focus is on commercial-based technologies being utilized by illicit actors for nefarious purposes that are impacting military operations and threats to homeland security.

C.1.1 PURPOSE

The purpose of this TO is to provide contractor support to the I2WD EAR Division's program management, engineering, and R&D to deliver technology to the warfighter in response to emerging requirements and global threats. The TO shall provide prototyping and electronic forensics and exploitation support services; characterization, replication, technical analysis, signatures and chamber collections, technology, vulnerability, and facility assessments; and test and evaluation, information exchanges, training, logistics, and program management services to support I2WD EAR's mission.

C.1.2 AGENCY MISSION

The Army C5ISR Center is an applied research center to discover, develop, and deliver innovative technologies and integrated solutions that shape the battle space and enable information superiority for the joint warfighter.

I2WD, operating under the C5ISR Center, serves as the Army's center for R&D of advanced cyber operations, electronic warfare, SIGINT technologies, radar, and intelligence analysis, exploitation, and dissemination capabilities. Today's Army faces new and varying threats from unconventional and asymmetric warfare. These new threats demand the need for capabilities that stop these actions and help warfighters stay steps ahead of adversaries. I2WD researches, develops, and evaluates intelligence, surveillance and reconnaissance, electronic warfare, and cyber technologies to provide effective, proactive situational awareness and tracking, targeting, and survivability solutions that transition into operational, relevant capabilities for the soldier. From initial concept through fielding, I2WD spans the lifecycle of these systems and provides engineering and management support to Program Executive Offices.

C.2 SCOPE

The scope of this TO includes the activities related to and in support of delivering technology, assessments, and countermeasures to the warfighter including Commercial Based Technology Analysis (CBTA), program management, logistics, training, software architecture and development, engineering, and technical support services. The primary Continental United States (CONUS) location is Aberdeen Proving Ground (APG), Maryland (MD). Support will be

provided in the CONUS and Outside the Continental United States (OCONUS) locations around the world, including hostile territories. CONUS support may also have contractor personnel located at other Government facilities across the country. Other than APG, CONUS and OCONUS locations may change throughout the duration of this TO to support branch activities as mission and customer requests dictate.

C.3 CURRENT ENVIRONMENT

The EAR Division activities support approximately 50 customers across the Government annually. Customer-requested activity completion time frames vary significantly depending on complexity and task requirements. The I2WD EAR Division conducts activities across the following mission areas:

a. Program Integration Support includes program coordination and outreach/coordination to Department of Defense (DoD) partners.
b. Response, Analysis, and Data Extraction (RADE) includes R&D, characterization of electronics and firmware, activities for performing signals analysis, firmware analysis, signature characterization of global CBTs, and Modeling and Simulation (M&S).
c. Global Operational Support and Threat (GOST) includes performing predictive analysis, threat analysis, technology assessments, infrastructure studies, and vulnerability assessments.
d. Replication, Evaluation, and Mitigation (REM) includes conducting test and evaluation, prototyping of concepts from design to fabrication, replication of commercial-based threats, red teaming, and mitigation.

The I2WD Historical Staffing and locations spreadsheet is included in **Section J, Attachment BB**, for reference only.

C.4 OBJECTIVE

The objective of this TO is to provide the I2WD Exploitation Analysis and Response Division with CBTA, electronics forensics, and exploitation support services to enable quick reactionary responses to customer organizations in response to current and emerging threats.

C.5 TASKS

The contractor shall perform the following tasks:

Task 1 – Provide Program Management Support
Task 2 – Provide Program Integration Support
Task 3 – Provide Replication, Evaluation, and Mitigation (REM) Support
Task 4 – Provide Response, Analysis, & Data Extraction (RADE) Support
Task 5 – Provide Global Operational Support and Threat (GOST) Support
Task 6 – Provide Surge Support (Optional)

C.5.1 TASK 1 – PROVIDE PROGRAM MANAGEMENT SUPPORT

The contractor shall provide project management support under this TO. This includes the management and oversight of all activities performed by contractor personnel, including

subcontractors, to satisfy the requirements identified in this Performance Work Statement (PWS). The contractor shall identify a Program Manager (PM) by name, who shall provide management, direction, administration, quality assurance, and leadership of the execution of this TO.

The contractor shall facilitate Government and contractor communications and all activities necessary to ensure the accomplishment of timely and effective support, performed in accordance with the requirements contained in this Contract. The contractor shall ensure required personnel complete all I2WD mandatory training within specified timelines. As new work requests are identified, the contractor shall provide initial estimates for Level of Effort (LOE). The contractor shall provide solicited and unsolicited recommendations and status updates to ensure the Government program lead(s) is kept current on all delays, deviations, and potential problems that could impact the outcome of the project.

The contractor shall conduct regular reviews of the Project Management Plan (PMP) as well as reviews of staff assignments, contractor's monthly progress, status and financial reports with the I2WD Technical Point of Contact (TPOC) and the FEDSIM COR. The contractor shall maintain the status of the Government-Furnished Property (GFP) **(Section J, Attachment C)** (**Section F, Deliverable 01**) list. The contractor shall inform the FEDSIM COR and I2WD TPOC of any technical, financial, personnel, or general managerial problems encountered throughout the Contract's PoP.

C.5.1.1 SUBTASK 1.1 – ACCOUNTING FOR CONTRACTOR MANPOWER REPORTING

Army Contractor Manpower Reporting System requirements apply to this effort and all manpower requirements shall be input into the system as required.

To fulfill this Army reporting requirement, the following information for I2WD is provided:

I2WD Unit Identification Code (UIC): W4G8AA
I2WD Federal Service Code (FSC): AJ44
I2WD Command Code: 6N
I2WD Fiscal Funding Station Code: S28043

The contractor shall report ALL contractor labor hours (including subcontractor labor hours) required for performance of services provided under this contract for the I2WD via a secure data collection site: the Enterprise Contractor Manpower Reporting Application (ECMRA). The contractor shall completely fill in all required data fields using the following web address: http://www.ecmra.mil/.

Reporting inputs will be for the labor executed during the PoP during each Government Fiscal Year (FY), which runs October 1 through September 30. While inputs may be reported any time during the FY, all data shall be reported No Later Than (NLT) October 31 of each calendar year. Contractors may direct questions to the support desk at: http://www.ecmra.mil/.

Contractors may use Extensible Markup Language (XML) data transfer to the database server or fill in the fields on the website. The XML direct transfer is a format for transferring files from a contractor's systems to the secure website without the need for separate data entries for each

required data element at the website. The specific formats for the XML direct transfer may be downloaded from the web.

C.5.1.2 SUBTASK 1.2 – COORDINATE A PROJECT KICK-OFF MEETING

The contractor shall schedule, coordinate, and host a Project Kick-Off Meeting at the location approved by the Government (**Section F, Deliverable 02**). The meeting will provide an introduction between the contractor personnel and Government personnel who will be involved with the TO. The meeting will provide the opportunity to discuss technical, management, and security issues, and travel authorization and reporting procedures. At a minimum, the attendees shall include Key contractor Personnel, representatives from the directorates, other relevant Government personnel, and the FEDSIM COR.

At least three days prior to the Kick-Off Meeting, the contractor shall provide a Kick-Off Meeting Agenda **(Section J, Attachment E)** (**Section F, Deliverable 03**) for review and approval by the FEDSIM COR and the I2WD TPOC prior to finalizing. The agenda shall include, at a minimum, the following topics/deliverables:

a. Points of Contact (POCs) for all parties.
b. Personnel discussion (i.e., roles and responsibilities and lines of communication between contractor and Government).
c. Staffing Plan and status.
d. Transition-In Plan (**Section F, Deliverable 04**) and discussion.
e. Security discussion and requirements (i.e., building access, badges, Common Access Cards (CACs)).
f. Invoicing requirements.
g. Final Baseline Quality Management Plan (QMP) (**Section F, Deliverable 05**).

The Government will provide the contractor with the number of Government participants for the Kick-Off Meeting, and the contractor shall provide sufficient copies of the presentation for all present.

The contractor shall draft and provide a Kick-Off Meeting Minutes Report (**Section F, Deliverable 06**) documenting the Kick-Off Meeting discussion and capturing any action items.

C.5.1.3 SUBTASK 1.3 – PREPARE WEEKLY ACTIVITY REPORTS (WARs) AND MONTHLY STATUS REPORTS (MSRs)

The contractor shall complete WARs using the I2WD format and within I2WD provided deadlines (**Section F Deliverable 07**).

The contractor shall develop and provide an MSR (**Section F Deliverable 08**). A sample MSR template is provided in **Section J, Attachment F** that outlines the Government's minimum requirements. The MSRs shall be in a format agreed upon by the I2WD TPOC and FEDSIM COR. Any modifications, enhancements, or deviations from the provided MSR template shall be approved by the FEDSIM COR prior to submission. The MSRs shall include the following:

a. Activities during reporting period, by task (include ongoing activities, new activities, and activities completed, and progress to date on all above mentioned activities). Each section shall start with a brief description of the task.
b. Problems and corrective actions taken. Also include issues or concerns and proposed resolutions to address them.
c. Personnel gains, losses, and status (security clearance, etc.).
d. Government actions required.
e. Risks and proposed risk mitigation.
f. Schedule (show major tasks, milestones, and deliverables; planned and actual start and completion dates for each).
g. Summary of trips taken, conferences attended, etc. (attach Trip Reports to the MSRs for the reporting period).
h. Number of personnel performing at each place of performance during the month and explanation for changes from the previous month.
i. Procurements made during the month (provide date of purchase, vendor, item name, item number, quantity, cost, and status).
j. Past, current, and estimated project monthly expenditures and labor hours by task and CLIN through the end of the PoP.
k. Funded levels on the TO and the balance of funds remaining by task and CLIN.
l. Cumulative invoiced cost for each CLIN up to the previous month.
m. Diagram reflecting funding and burn rate by month for the TO.

C.5.1.4 SUBTASK 1.4 – CONDUCT PROJECT MANAGEMENT REVIEW (PMR) MEETINGS

The contractor shall conduct PMR meetings (**Section F, Deliverable 09)** with FEDSIM, I2WD, and stakeholders at least quarterly, focused on project management, technical status, and progress by task. The PMR shall report on staffing and financial status. The PMR shall provide opportunities to identify activities, establish priorities, and coordinate resolution of identified problems or opportunities. As a part of the PMR, the contractor shall be prepared to explain the reasoning, assumption, and methodologies in arriving at particular conclusions, recommendations, or alternatives in the accomplishment of the tasks required by the TO. The contractor shall have Key Personnel available to support the PMR. Subcontractors shall attend PMR meetings when required to address key elements. The contractor shall prepare presentation material and the PMR meeting minutes (**Section F, Deliverable 10**) including attendance, issues discussed, decisions made, and action items assigned. PMRs shall be conducted no less than quarterly; however, more frequent PMRs may be required.

C.5.1.5 SUBTASK 1.5 – PREPARE A PROJECT MANAGEMENT PLAN (PMP)

The contractor shall document all support requirements in a PMP. The contractor shall provide the Government with a draft PMP (**Section F, Deliverable 11**) on which the Government will make comments. The final PMP (**Section F, Deliverable 12**) shall incorporate the Government's comments.

The PMP shall:

a. Describe the proposed management approach and contractor project organizational structure with roles and responsibilities.
b. Include milestones, tasks, and subtasks required in this TO.
c. Provide for an overall Work Breakdown Structure (WBS) with a minimum of three levels and associated responsibilities and partnerships between Government organizations.
d. Describe in detail the contractor's approach to risk management under this TO.
e. Describe in detail the contractor's approach to communications, including processes, procedures, communication approach, and other rules of engagement between the contractor and the Government.
f. Describe in detail the contractor's quality control methodology for accomplishing TO performance expectations and objectives. This includes how the contractor's processes and procedures will be tailored and integrated with the Government's requirements to ensure high-quality performance.
g. Describe in detail the contractor's general operating procedures for travel, work hours, leave, staff training, policies, and problem resolution procedures.

The PMP is an evolutionary document that shall be updated annually at a minimum (**Section F, Deliverable 13**). The contractor shall work from the latest Government-approved version of the PMP.

C.5.1.6 SUBTASK 1.6 – PREPARE TRIP REPORTS

The Government will identify the need for a Trip Report when the request for travel is submitted **(Section F, Deliverable 14)**. The contractor shall keep a summary of all long-distance travel including, but not limited to, the name of the employee, location of travel, duration of trip, and POC at travel location. Trip reports shall also contain Government approval authority, total cost of the trip, a detailed description of the purpose of the trip, and any knowledge gained. At a minimum, trip reports shall be prepared with the information provided in **Section J, Attachment G.**

C.5.1.7 SUBTASK 1.7 –PROVIDE QUALITY MANAGEMENT PLAN (QMP)

The contractor shall identify and implement its approach for providing and ensuring quality throughout its solution to meet the requirements of the TO. The contractor's Quality Management Plan (QMP) shall describe the application of the appropriate methodology (i.e., quality control and/or quality assurance) for accomplishing TO performance expectations and objectives. The QMP shall describe how the appropriate methodology integrates with the Government's requirements. The contractor shall update the QMP submitted with its proposal (**Section F, Deliverable 15**).

The QMP shall contain the following at a minimum:

a. Approach for providing quality control in meeting the requirements of the TO.
b. Description of the quality control methodology for accomplishing TO performance expectations and objectives.

c. Validated processes and procedures that provide high quality performance for each task area.
d. Performance monitoring methods.
e. Performance measures.
f. Approach to ensure that cost, performance, and schedule comply with task planning.
g. Methodology for continuous improvement of processes and procedures including the identification of service metrics that can be tracked in the TO.
h. Description of how the processes integrate with the Government's requirements.

C.5.1.8 SUBTASK 1.8 – TRANSITION-IN

The contractor shall update the draft Transition-In Plan provided with its proposal and provide a final Transition-In Plan (**Section F, Deliverable 16**) as required in Section F. The contractor shall ensure that there will be minimum service disruption to vital Government business and no service degradation during and after transition. The contractor shall implement its Transition-In Plan NLT ten calendar days after award, and all transition activities shall be completed 30 calendar days after approval of final Transition-In Plan.

C.5.1.9 SUBTASK 1.9 – TRANSITION-OUT

The contractor shall provide transition-out support when required by the Government. The Transition-Out Plan shall facilitate the accomplishment of a seamless transition from the incumbent to incoming contractor/Government personnel at the expiration of the TO. The contractor shall provide a draft Transition-Out Plan within six months of Project Start (PS) (**Section F, Deliverable 17**). The Government will work with the contractor to finalize the Transition-Out Plan (**Section F, Deliverable 18**) in accordance with Section E. At a minimum, this Transition-Out Plan shall be reviewed and updated on an annual basis. Additionally, the Transition-Out Plan shall be reviewed and updated quarterly during the final Option Period.

In the Transition-Out Plan, the contractor shall identify how it will coordinate with the incoming contractor and/or Government personnel to transfer knowledge regarding the following:

a. Project management processes.
b. POCs.
c. Location of technical and project management documentation.
d. Status of ongoing technical initiatives.
e. Appropriate contractor-to-contractor coordination to ensure a seamless transition.
f. Transition of Key Personnel.
g. Schedules and milestones.
h. Actions required of the Government.

The contractor shall also establish and maintain effective communication with the incoming contractor/Government personnel for the period of the transition via weekly status meetings or as often as necessary to ensure a seamless transition-out.

The contractor shall implement its Transition-Out Plan NLT six months prior to expiration of the TO.

C.5.1.10 SUBTASK 1.10 – PREPARE TECHNICAL DIRECTION PLAN (TDP) FOR CUSTOMER WORK REQUESTS

TDPs are a means of clarifying contractual requirements or direction of a technical nature, within the context of the TO. The contractor shall prepare TDPs in response to an approved FEDSIM Contracting Officer Technical Direction Letter (TDL) in accordance with Section H.6. The contractor shall tailor the requirements for each TDP. The TDP is an evolutionary document and the contractor shall work from the latest Government-approved version of the TDP.

The TDP **(Section F, Deliverable 19)** shall include:

a. Project overview.
b. Project cost estimate (Rough Order of Magnitude (ROM)).
c. Master Equipment List (MEL)/Bill of Materials (if applicable).
d. Project schedule including milestones, tasks, and subtasks required in this project.
e. Project risks and mitigations.
f. Project staff and resources.
g. Performance criteria.
h. Travel considerations.

C.5.1.11 SUBTASK 1.11 – PROVIDE PROJECT ANALYSIS SUPPORT

Project analysis support is critical to the effective and efficient operations of I2WD customer projects and fulfillment of TO requirements. Project analysis support includes project analysis activities within I2WD and among other organizations for day-to-day operations.

The contractor shall provide the following Project analysis support:

a. Perform financial and budget analysis, prepare cost estimates, track expenditures, coordinate actions and information with other Government organizations and the I2WD budget/financial planning team, and develop briefings and graphic representations of information **(Section F, Deliverable 20)**.
b. Coordinate actions and information (technical and financial) with other Government organizations.
c. Coordinate with I2WD budget/financial planning team to ensure forecast and spent to date are tracked for each TDP.
d. Coordinate with I2WD technical leads to develop technical briefings.

C.5.1.12 SUBTASK 1.12 – PROVIDE ACCESS TO A PORTAL SOLUTION

The contractor shall develop and maintain an unclassified portal that both Government-approved contractor personnel and Government personnel can access. The TO portal shall be CAC enabled and shall be a cloud-based solution available to users with a .mil and .gov account. The contractor shall provide the I2WD TPOC and the FEDSIM COR with a recommended portal strategy or solution **(Section F, Deliverable 21)** 30 calendar days after the kick-off meeting; and, once the I2WD TPOC and FEDSIM COR have provided the contractor with authority to proceed, the contractor shall proceed with developing and implementing the approved solution in a timely and efficient manner.

The objective of the TO portal is to introduce efficiencies and ensure coordinated service delivery worldwide. At a minimum, the TO portal shall serve as a repository for all unclassified TO deliverables and shall also possess a workflow process that automates the contractor's submission of ROMs, Requests to Initiate Purchases (RIPs), and Travel Authorization Requests (TARs). This workflow process shall also allow the FEDSIM COR and other Government personnel to provide digital concurrence and approval for ROMs, RIPs, and TARs.

C.5.2 TASK 2 – PROVIDE PROGRAM INTEGRATION SUPPORT

The contractor shall provide program integration support across I2WD functional organizations to increase synergy and efficiency of common work elements to facilitate operating divisions to focus on their respective primary mission(s). Support includes administration, database, technical writing, advisory, operations, procurement support, and logistics support.

C.5.2.1 SUBTASK 2.1 – PROVIDE INFORMATION TECHNOLOGY (IT)/INFORMATION ASSURANCE (IA) DATABASE SUPPORT

The contractor shall provide the following IT/IA Database **(Section F, Deliverable 22)** function consisting of:

a. Sustain and upgrade Automated Information Systems (AIS) systems within the CBTA labs.
b. Provide expertise in the IT and IA fields in order to support the Government in the day-to-day operations, maintenance, administration, and sustainment of all networks and standalone computer systems.
c. Document any modification or alteration of the certification and accreditation of the lab space.
d. Make recommendations for future upgrades to computer systems with the goal of maintaining adequate lab facilities required to execute the mission at hand.
e. Assist in the detailed selection and purchase of laboratory and computer equipment.
f. Coordinate and attend equipment installation, commissioning, training, and support operation.
g. Meet personnel certification/accreditation requirements as designated by the Designated Accreditation Authority (DAA).
h. Maintain compliance with Army IA Vulnerability Management (IAVM) and other policies as designated by the DAA.
i. Perform hardware installation of end-user devices to include computers, printers, laptops, scanners, and other hardware.

The contractor shall provide the following database support:

a. Provide database and administration support for standard database software.
b. Perform local database administration for standard database software and develop, field, and support database applications.
c. Perform database builds, reorganizations, maintenance, tuning, backups, restorations, and query design.

d. Organize and provide training for laboratory personnel to ensure appropriate execution of database implementation.
e. Ensure appropriate patches are implemented on database servers for operating system and database software.
f. Create database implementation and documentation defining database requirements and implementation standards to migrate from legacy access database system.
g. Prepare and implement database tests plans to ensure functionality in test and production phases of database development.
h. Design and implement management system for use within I2WD to include data and lifecycle management, chain of custody, reporting and analytics, and web services interface.

C.5.2.2 SUBTASK 2.2 – PROVIDE TECHNICAL WRITING SUPPORT

I 2WD requires contractor provided technical writing support. Technical writing support shall be provided in a courteous, professional, and timely manner often requiring adherence to aggressive timelines. Technical Writing Support includes the following:

a. Conduct technical writing, technical editor review, and development of deliverables and documents.
b. Assist in the preparation of project plans, schedules, demonstrations, requirements, and test plans.
c. Facilitate documents through I2WD processes and procedures to gain release permission to various communities (dependent on classification level and audience).
d. Write briefings and memos for overall branch/programmatic support.
e. Write Standard Operating Procedures (SOPs) to help standardize branch processes and educate new branch members on policies and procedures.
f. Provide security classification guides to help ensure documents are properly marked before reaching security review.
g. Maintain and update existing templates and create new templates as required.
h. Post approved reports to portals to allow information sharing with approved agencies and partner nations.
i. Maintain library of approved documents and their release approval documentation.

C.5.2.3 SUBTASK 2.3 – PROVIDE TECHNICAL ADVISOR SUPPORT

I2WD provides subject matter expertise to its customers. The contractor shall support I2WD by providing subject matter expertise with regards to policy, technical assistance, systems engineering, and management. This subtask will leverage intelligence gathered from worldwide sources along with ongoing I2WD internal development.

a. Manage, facilitate, and represent I2WD communication to senior leaders, DoD, and non-DoD Government agencies.
b. Manage and coordinate the execution of technical projects, testing and evaluation, and rapid acquisition projects.

C.5.2.4 SUBTASK 2.4 – PROVIDE PROGRAM OPERATIONS SUPPORT

The contractor shall provide program operations support performed on-site at APG with some travel required. Support includes the coordination, documentation, and planning of the I2WD exchanges and similar community-wide efforts. Additionally, the contractor shall support pre- and post-event meetings with all stakeholders; create, review, and deliver meeting minutes within seven calendar days of the multiple meetings that support the Program Operations Team; and support the coordination, documentation, and dissemination of tasks that are received from DoD and non-DoD Government agencies.

The contractor shall provide program operation support including, but not limited to:

a. Assist in the preparation of I2WD mission related and ancillary travel requirements.
b. Implement and assist with executing I2WD operations support systems, processes, scheduling, and procedures.
c. Assist in the preparation of I2WD mission related briefs, reports, agendas, and planning.
d. Facilitate audio visual and telecommunications support.
e. Provide in-processing and out-processing support.
f. Update and maintain I2WD organization structure and POC information.

C.5.2.5 SUBTASK 2.5 – PROVIDE PROCUREMENT SUPPORT

The contractor shall procure materials and equipment and ODCs including hardware, software, and related supplies critical and related to the services being acquired under the TO in an efficient and timely manner. The contractor shall submit RIPs (**Section J, Attachment H**) for materials and equipment and ODCs to the I2WD TPOC and FEDSIM COR in accordance with Section G.3.2.

The contractor shall provide the following procurement support:

a. Prepare, place, track, and monitor procurement budgets, requisitions, and purchase orders to ensure timely execution.
b. Analyze requirements, obtain vendor quotes, and develop cost estimates.
c. Assist in maintaining budget process documents.
d. Document processes and contact information of external parties to include timelines.
e. Develop and maintain a tracking sheet or database that contains easy to retrieve budget, POC, and associated project information, tracking numbers, and information **(Section F, Deliverable 23)**.
f. Assist in gathering and developing background data, information, and documentation that will be used for reference and evidence to support required program budgets.
g. Coordinate and collaborate with the I2WD budget/financial planning team for tracking, verifying, and providing updates.

C.5.2.6 SUBTASK 2.6 – PROVIDE LOGISTICS SUPPORT

The contractor shall provide a Logistics Support Report **(Section F, Deliverable 24)** documenting the following requirements:

a. Monitor and assist with shipping, receiving, and inventory of branch and division assets to include purchase and products.
b. Maintain, track, and verify Global Combat Support System (GCSS)-Army property hand receipt and verify inventory on a regular basis.
c. Perform lifecycle management roles determining equipment capabilities versus what is needed, which equipment can be used for validated testing, and the reliability and maintainability of equipment to determining the significance of repairs.
d. Maintain equipment through its lifetime, schedule and forecast calibration and verification timeframes, and cycle equipment to reduce impact to mission including tracking all historical data (and all associated forms) such as shipping, warranty, calibration, turn-in, and current locations for commercial and Government-Furnished Equipment (GFE) using Laboratory Information Management System (LIMS)-based and databases.
e. Coordinate with Government agencies to establish transportation account codes for DoD shipping.
f. Facilitate organization operational needs to include safety, security, property, facilities, and maintenance. Coordinate schedules for these needs to ensure no impact of other mission operations. Maintain and update laboratory SOPs to ensure lab safety and facilities forms are in line with proper forms and handling procedures.
g. Execute logistics policies and SOPs to streamline requests for equipment, shipping, and operational support.
h. Maintain accountability of all branch and division assets. Maintain branch and division property book. Ensure all assets entering or leaving the Sensitive Compartmented Information Facility (SCIF) are properly tracked and accounted for.
i. Maintain and track chain of custody of evidence, ensuring all required procedures as document in the SOP are adhered to.

C.5.3 TASK 3 – PROVIDE REPLICATION, EVALUATION, AND MITIGATION (REM SUPPORT

I2WD supports Government customers by providing REM services. I2WD replicates CBT for evaluation utilizing reverse engineering and provides mitigation strategies and guidance and Red Team support to test events. These efforts support the warfighter and Research, Development, Test, and Evaluation (RDT&E) communities.

C.5.3.1 SUBTASK 3.1 – PROVIDE TECHNOLOGY, HARDWARE REPLICATION, AND ASSEMBLY TEAM (THREAT) SUPPORT

The contractor shall provide engineering, logistics, and project management support for Target Fabrication and General Electronics Prototyping. The objective of this effort shall be for the contractor to design and fabricate one or more copies of a target device that are functionally indistinguishable electrically, mechanically, and/or visually from the target itself. The contractor shall work in both a lab and machine-shop setting and develop products using a wide range of fabrication tools and materials. The contractor shall utilize Computed Tomography (CT) Scanner/X-Ray to support general electronic, mechanical, and electro-mechanical prototyping and fabrication efforts. The contractor shall utilize various scale three-dimensional (3D) printers

to support general electronic, mechanical, and electro-mechanical prototyping and fabrication efforts. The contractor shall utilize proper Personal Protective Equipment (PPE) as required and in accordance with I2WD safety procedures.

C.5.3.1.1 SUBTASK 3.1.1 – COMMERCIAL BASED TECHNOLOGY REPLICATION

CBT replication aims to provide high fidelity replicas of globally collected CBT threat materiel and includes the below tasks.

The contractor shall provide the following CBT replication support:

a. Conduct target device replication, which consists of electrical assembly and sub-assembly design capture, mechanical design capture, firmware/software review and manipulation, and fabrication. Fabrication encapsulates the population of Printed Circuit Boards (PCBs) and production of replicated device enclosures, all while using similar materials to those employed by the target device to the maximum extent possible or as dictated by the end user.
b. Conduct electrical, mechanical, and electro-mechanical design capture, modeling, simulation, analysis, prototyping, testing, verification, validation, and documentation of an electronic solution in response to an internal laboratory or an external customer request.
c. Develop conceptual system and subsystem design and conduct technology assessments and down-selection, breadboard verification, schematic capture, PCB design, mechanical design, fabrication, and system/subsystem integration.
d. Document all test plans, test calibrations, test results, verification, and validation criteria and results (**Section F, Deliverable 25**).
e. Produce an Operations Manual (**Section F, Deliverable 26**) documenting the specific steps necessary to operate a replicated device including descriptions of device operating stimuli and pictorial descriptions for end-user and/or customer use. Prepare and edit these technical reports to comply with existing I2WD device replication report formats.

C.5.3.1.2 SUBTASK 3.1.2 – REMOTE PILOT VEHICLE (RPV) THREAT REPLICATION

Remoted Piloted Vehicles (RPV) Replication aims to provide high fidelity replicas of globally collected RPV threat materiel. The contractor shall develop a process **(Section F, Deliverable 27)** to support the entire lifecycle of RPV threat replication and exploitation, providing operations, maintenance, and analysis support for X-ray and CT imaging exploitation. The contractor shall develop and design 3D physical drawings to be used for RPV replication and fabrication and support PCB replication and fabrication and additive manufacturing and replication to include 3D printing capabilities. The contractor shall replicate mechanical or electro-mechanical, and RPV target devices that may consist of Commercial Off-the-Shelf (COTS) items, modified COTS items, or completely new technical designs. Lastly, the contractor shall support customer events to demonstrate and test RPV threat capabilities when requested by the Government.

C.5.3.2 SUBTASK 3.2 – PROVIDE GLOBAL AUTONOMOUS MITIGATION AND EVALUATION TEAM (GAMET) SUPPORT

The contractor shall provide engineering, technician, logistics, project management, and pilot support for test event support, vulnerability mitigation, and material acquisition support **(Section F, Deliverable 28)**. The objective of this effort shall be for the contractor to support test events with copies of target devices, provide mitigation and cyber vulnerability support in reference to these technologies, and manage material acquisition. The contractor shall work in both a lab setting as well as test ranges. The contractor shall utilize proper PPE as required and in accordance with I2WD safety procedures.

Event support requires the contractor to provide instruction, replicated devices, and realistic exercise support that demonstrates adversary Tactics, Techniques, and Procedures (TTPs) to assist pre-deployed personnel with target familiarization, particularly with respect to their employment of target devices. The contractor shall provide replicated versions of target devices that shall be used to train students on adversary TTPs including emplacement TTPs, photo TTPs, and antenna TTPs; conduct site surveys of the different event sites for flight patterns and setup locations; conduct pre-flight check and test; provide test evaluations to event coordinator; provide operational input for assessment reports; and perform equipment checks, maintenance, and inventory. Additionally, the contractor shall provide technical Subject Matter Experts (SMEs) for use of commercial technology on the battlefield and how to properly represent that technology at a test or training scenario in a relevant manner. Examples of events include Raven's Challenge, Unmanned Aircraft Systems (UAS) Test Events, counter-UAS (cUAS) testing, and demonstrations.

Vulnerability mitigation requires the contractor to conduct technical reviews supporting vulnerability and mitigation requirements to assist internal and external groups in their mission requirements while also providing research and technological enhancements to mitigation efforts via hardware and software products. Support includes providing "best practices" and technical accommodations to mitigate vulnerabilities in COTS items, conducting technical vulnerability assessments on COTS items, conducting technical vulnerability assessments on COTS items in order to increase performance to the larger community, and developing technical mitigation solutions for known vulnerabilities. The contractor shall provide lifecycle management for the UAS Exception to Policy (ETP) waiver request process and coordinate with DoD and non-DoD Government agencies to participate and provide approval authorization for vulnerability mitigation.

Asymmetric procurement and logistics requires the contractor to provide management of specialty procurements, provide Technical Intelligence (TECHINT) analysis to inform proper asymmetric procurement of CBT, and coordinate with other services and other Government organizations to de-conflict asymmetric procurement. The contractor shall monitor and assist with shipping, receiving, and inventory control of branch assets to include purchases and products. The contractor shall conduct inventory management inclusive of preparing materials and equipment, staging packaged items for shipping, and taking proper receipt of and tracking the location of materials and equipment through all stages (i.e., delivery to/from shipment sites, within I2WD spaces, etc.). Additionally, the contractor shall prepare and ensure cleanliness of the shipping, receipt, and stored location spaces, maintain inventory control of items delivered to

applicable Government sites, and enhance cyber security mitigation analysis and strategies to respond to the ever-changing CBT threat.

C.5.4 TASK 4 – PROVIDE RESPONSE, ANALYSIS, AND DATA EXTRACTION (RADE) SUPPORT

I2WD supports Government customers with RADE. I2WD performs the data extraction, characterization, exploitation, reverse engineering signatures collection, signals analysis, and automated tool development for the identification, exploitation, and visualization of global CBT. These efforts directly support M&S, SIGINT initiatives, R&D, the Intelligence Community (IC), and sustainment of Electronic Warfare and Cyber (EW&C). The contractor shall support I2WD providing these RADE services.

C.5.4.1 SUBTASK 4.1 – PROVIDE EXPLOITATION CYBER AND DATA RECOVERY SUPPORT

The contractor shall obtain and analyze and report on **(Section F, Deliverable 29)** any digital data stored on commercial devices to determine how the device functions, which feeds into a complete characterization and exploitation of the device. Contractor-provided support includes firmware analysis, firmware extraction, and CBT exploitation.

The contractor shall provide cyber and data recovery inclusive of firmware analysis support, analyzing the firmware from commercial devices to help determine how the device is functioning or is meant to function. This analysis shall feed into the characterization of the commercial device. The contactor shall provide the ability to identify trends in firmware development to anticipate future capabilities and reduce costs for the Government; conduct quick response to new threats and associate code with specific authors to track proliferation; demonstrate engineering design capability in analog, digital, and software disciplines; compile technical data on standardization to reverse engineer component parts and firmware; and develop recommendations and advice on system development, improvements, optimization, and supporting efforts.

The contractor shall provide firmware extraction support. The contractor shall research and develop methods for extracting firmware from commercial devices. Lab-friendly and field-friendly methods may be required, and the methods shall be used to extract data from devices being characterized or exploited as specified in other tasks. The contractor shall develop non-conventional and advanced techniques to extract essential firmware from CBTA processes and tools to automate firmware extraction techniques for lab and field use. Additionally, the contractor shall develop and utilize specialized equipment to support firmware extraction requirements and maintain a sufficient level of technical competence in support of continuous technical advances.

CBT exploitation support involves completely characterizing commercial devices at all levels (i.e., system, circuit, component, and microchip) in order to determine how the device functions or could be made to function. The characterization information and parameters feed into the exploitation and how techniques and counter-systems could affect the devices. The contractor shall provide analysis of the target device’s electronic and mechanical construction and functionality, provide and utilize a standardized reverse engineering process to ensure devices

are characterized and exploited in a well-understood and consistent manner, and advance the Electronic Data Recovery (EDR) capabilities on CBTs, various digital storage mediums, and embedded systems of threat systems/devices. Further, the contractor shall develop forensically sound data extraction and exploitation methods to exploit CBTs, open source software, custom-made software, and techniques that have been learned through R&D. Additionally, the contractor shall develop multiple data extraction techniques for devices that had no commercial support, along with decoding the data and creating custom parsing algorithms that could be used in existing commercial products for faster processing, design, and development of exploitation reports.

C.5.4.2 SUBTASK 4.2 – PROVIDE ADVANCED TOOL AND STANDARDIZATION DEVELOPMENT SUPPORT

Advanced tool and standardization involves the development of hardware and software tools to help streamline and standardize the characterization and exploitation both internally as well as with partner organizations and countries. The contractor shall provide M&S support, exploitation automation and standardization support, and image recognition support.

M&S support requires the utilization of software architecture engineering and application engineering skill sets to provide an M&S framework. I2WD develops an M&S framework that allows end users to develop models in their desired programing language and stimulate their models in an interactive, multi-human-in-the-loop simulation environment. This tool utilizes the Microsoft (MS) .net framework and Unreal Engine and provides the end user with an easy-to-use user interface and an Application Program Interface (API).

The contractor shall conduct computer software architecture design to support a Government-developed M&S framework; perform development and testing on a custom API to ensure reliability, robustness, and computational performance; provide software development support using C#, C++, Python, MATLAB, and other software development tools; support development of mathematical and statistical M&S to predict system performance in the presence of various environmental and operational conditions; provide 3D modeling and video game engine development support using Unreal Engine 4, Autodesk 3ds Max, Adobe Photoshop CC, and other modeling tools; and deliver fully documented and tested source code **(Section F, Deliverable 30).**

Exploitation automation and standardization support requires the utilization of software architecture engineering and application engineering skill sets to provide electronics exploitation toolkits. The contractor shall be responsible for assisting the I2WD with marketing electronics exploitation toolkits to its customers, Government partners, and foreign partners to promote standardization across the discipline.

The contractor shall develop an ease-of-use capability to automate the characterization and technical exploitation of CBTs, which provide near real-time exploitation data, focusing on Size, Weight, Power, and Cost (SWAP-C); develop an expeditionary tool/capability to provide strategic-level exploitation capabilities in the operational and tactical environment that replicates essential pieces of lab equipment required for technical exploitation; and train end users on how to use the electronics exploitation toolkit. Additionally, the contractor shall conduct computer software design and architecture activities to automate and complement the full suite of test and

measurement activities being performed or developed and deliver scripted, documented, and/or fully compiled operational programs (**Section F, Deliverable 31**) based on the product toolkit system and its capabilities. Further, the contractor shall assist with exploitation and M&S tool development and attend international engagements, as required by the Government, to educate partner nations on developed technical forensics toolkits and future initiatives. Lastly, the contractor shall understand international relations with foreign partners and classification standards for sharing information across partner nations.

Image recognition support requires the utilization of software architecture engineering and application engineering skill sets to provide electronics exploitation toolkits. The contractor shall be responsible for assisting I2WD with marketing electronics exploitation toolkits to its customers, Government partners, and foreign partners to promote standardization across the discipline.

The contractor shall provide software capability that helps outside users to identify devices by using photographic recognition and an application that compares the current images with previously uploaded, identified, and captured images to determine matches with previous devices. The contractor shall document and report on updates and sustainment of the system software design, specifications, and requirements and updates and modifications to algorithms.

C.5.4.3 SUBTASK 4.3 – PROVIDE SIGNALS AND SIGNATURES SUPPORT

Signals analysis support requires the utilization of digital signal processing, signals analysis, and algorithm and technique development skillsets to provide complete reverse engineering of Radio Frequency (RF) signals. I2WD provides signal characterization reports to the I2WD community of interest. The contractor shall be responsible for assisting I2WD with reverse engineering of signals from CBTA, creating documentation of the process, collaborating with other members of the I2WD community of interest, and disseminating the information with various partners and community members. The reverse engineering process will be conducted by using existing COTS and Government Off-the-Shelf (GOTS) tools, where applicable, or by developing new tools, algorithms, and/or processes, when needed.

The contractor shall:

a. Identify and document the full lifecycle of the signals analysis process **(Section F, Deliverable 32).**
b. Operate signal collection, processing, analysis tool suites, and databases for exploitation of recordings or live environment signals.
c. Conduct demodulation and decoding of signal analysis to establish target identification and operational patterns.
d. Identify, report, maintain, and file **(Section F, Deliverable 33)** information in support of initial devices and data.
e. Create documentation for updates and sustainment of the signal analysis, specifications, and requirements.
f. Develop new tools, algorithms, and/or processes **(Section F, Deliverable 34)** to demodulate unknown signals.

Chamber signatures support requires the utilization of RF engineering, digital signal processing, and algorithm and technique development skillsets to provide both time and frequency RF signature characterization using passive and active methods. The signature characterization shall be conducted using current accepted methods as well as R&D of new techniques. I2WD provides signature characterization reports to the community of interest. I2WD also supports customer-funded RF anechoic chamber testing. The contractor shall be responsible for assisting I2WD with creating test and analysis automation tools, characterizing RF time and frequency signature using both passive and active methods, supporting various customer-sponsored tests, creating documentation of the process, collaborating with other members of the community of interest, and disseminating the information with various partners and community members.

The contractor shall:

a. Collect and analyze complex RF signatures including, but not limited to, Electro-Magnetic Emissions (EME) and Radar Cross Section for multiple target systems.
b. Conduct active and passive testing to collect traditional and non-traditional signatures using best engineering practices.
c. Perform modern time and frequency analysis techniques on collected data to characterize target signatures. Use existing COTS and GOTS tools where applicable and develop new tools, algorithms, and/or processes to characterize signatures.
d. Report all signature data in I2WD report format **(Section F, Deliverable 35)**.
e. Provide prototype antenna design, software modeling, antenna fabrication, and antenna integration testing.
f. Support various customer-specific tests in an RF anechoic chamber environment and provide the results in I2WD report format.

C.5.5 TASK 5 – PROVIDE GOST SUPPORT

I2WD GOST provides Government customers with TECHINT for historical, current, and emerging global CBTs. I2WD TECHINT supports and enables the exploitation, R&D and ICs providing critical data required to optimize vulnerability assessments, support warfighter functions, and enhance system development by deploying teams in support of tactical and operational requirements.

C.5.5.1 SUBTASK 5.1 – MOBILE TRAINING TEAM (MTT) SUPPORT

The contractor shall provide MTT preparation support, inclusive of preparing and updating training plans, packages, and other related artifacts (**Section F, Deliverable 36**), and conduct training for users and other stakeholders on the operation and maintenance of RPV and counter-RPV (cRPV) systems. Training formats may include practical or hands-on, classroom, computer-based, or some combination thereof, and can be in response to requirements to address gaps in current user proficiency or part of a more comprehensive training program. Training documentation is based on task and skill analysis to include formal Programs of Instruction (POIs) and informal training supplements. The contractor shall adapt and continuously improve training documents and material based on system updates and student feedback. The contractor shall develop master reproducible training materials and training aids to support follow-on training. As part of the training effort, the contractor shall support the Government in the review and/or evaluation of UAS and cUAS training documentation such as POI, Tasks Inventory Lists,

and Task and Skill Analysis required for training operations and maintenance personnel for the RPV and cRPV systems.

The contractor shall provide User MTT Support inclusive of providing operations and maintenance training for UAS and cUAS users at all levels and training that covers all system components and required procedures. The contractor shall support Government pre-system deployment validation of all training and training material. The contractor shall provide operator and maintainer training at Government and designated contractor locations, both CONUS and OCONUS. Contractor personnel shall be globally deployable for an extended timeframe; perform all aspects of operational testing including execution and logistics; and build, operate, and troubleshoot commercial RPVs (i.e., air, land, and sea) according to DoD standards.

C.5.5.2 SUBTASK 5.2 – PROVIDE COMMERCIAL-THREAT ANALYSIS AND ASSESSMENT SUPPORT

The contractor shall provide commercial-threat analysis and assessment support including Improvised Explosive Devices (IEDs), Futures, and RPV support. The contractor support shall include providing analysis and assessments across all combatant commands. The contractor shall inform test events, mitigation programs, assessment programs, test proposals, and other CBTA program assets. The contractor shall respond to Requests for Information (RFI) from Government customers and produce products and whitepapers to better inform the community when required by the Government.

C.5.5.3 SUBTASK 5.3 – PROVIDE VULNERABILITY ASSESSMENT SUPPORT

The contractor shall provide vulnerability assessment support including pre- and post-assessment support. Pre-Assessment support includes engaging directly and providing analytic support to all cUAS efforts providing valuable intelligence support to DoD, Department of Justice (DoJ), and other material solutions developers. The contractor shall attend interagency United States (U.S.) working groups, represent I2WD, and interact with high-level staff, coalition partners, and joint service representatives to ensure products meet joint operational objectives. Assessment support is inclusive of providing in-and out-briefings for stakeholders and conducting site surveys following program SOPs. Post-assessment support includes drafting and delivering assessment reports (**Section F, Deliverable 37**) based on findings on-site and analysis of vulnerabilities.

C.5.6 TASK 6 – PROVIDE SURGE SUPPORT (OPTIONAL)

Unpredictable world events require that I2WD have the capability to respond to events and requests for support in a timely manner to assess, address, and combat threats in pressing situations. The Government reserves the right to exercise additional augmented support services at any point in time during the TO performance, in accordance with the terms and conditions of the Contract. The contractor shall provide additional augmented support for any requirement in Tasks 1 through 5 that is within the scope of the TO. Surge support may include rapid deployment of personnel to CONUS or OCONUS locations.

When the requirement for additional surge augmented support is identified, the Government will notify the contractor in advance and exercise this Surge Task. All surge support shall be approved by the FEDSIM CO, FEDSIM COR, and I2WD TPOC.